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ABSTRACT

Results of the National Center for Education Statistics' (NCES) evaluation of its collection of data for the Higher Education General Information Survey (HEGIS) are examined. Concerns regarding accuracy, timeliness, and uses of HEGIS data collection are addressed. To review the literature of higher education and publications concerned with some aspect of the impact of higher education on American society, a conventional review was conducted to determine trends in uses of the data, and a statistical sample of the appropriate literature was drawn to determine the level of use. More than 70 interviews were conducted with different types of users and contributers to HEGIS. Additionally, a sample of states and institutions within those states, and a second sample drawn from the log of purchasers of HEGIS data, also were surveyed. The findings suggest that the major impediments to the users of HEGIS data are lack of timely release, lack of knowledge about the availability of the data except among a small coterie of users, and start-up costs for new users of HEGIS computer tape files. It is recommended that NCES should give high priority to collecting and/or disseminating more data for evaluating the impact of financial aid programs and for developing policy in this area. Additional recommendations include: universe data should continue to be collected; data should continue to be collected yearly; the collection and dissemination of facility and library data should be scheduled regularly; provision should be made for including data from the tardy institutions both in hard copy publications and machine data files; and the NCES should give increased attention to improving the dissemination of HEGIS data. Data are presented that indicate the percentage of higher education publications that use HEGIS data for various purposes. (SW)

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WHO USES HIGHER EDUCATION
GENERAL INFORMATION SURVEY (HEGIS)
DATA FOR WHAT PURPOSES

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October 28, 1981

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WHO USES HIGHER EDUCATION GENERAL INFORMATION SURVEY (HEGIS) DATA FOR WHAT PURPOSES

Since the early part of the century, various federal offices of education have collected data on higher education. However, a much more systematic approach than in earlier years was begun in 1966-67 under the National Center for Education Statistics. Each year since then, the Center has collected data on institutional characteristics, degrees conferred, enrollments, and finance. With only somewhat less frequency it has also surveyed institutions to discover the status of higher education in relationship to employees (salaries and other matters) libraries, residence and migration, and facilities. It has also sampled institutions from time to time about adult/continuing education. (See Table 1 for a full listing of the surveys.)

From the beginnings of these systematic surveys, there has been controversy about the needs for the survey, the benefits obtained in relationship to institutional and federal costs, and the uses of the data.

As a result, the Center has almost annually convened a panel to evaluate what it was doing and how it might do better. Critics of HEGIS have generally attacked the data collection from the following perspectives: (1) accuracy; (2) timeliness; and (3) uses. This report summarizes the results of the Center's latest effort to evaluate its services in the collection of HEGIS data. The first part of the report is a brief overview of earlier problems. Later sections provide more detail on the status of the data today.

Accuracy. In the early years of the surveys, institutions differed considerably in accounting practices and discipline in respect to collecting and compiling data for their own use (much less for the "feds"). Thus, many of those familiar with the data collection methods at institutions suspected the accuracy of the data that was delivered to the Center for compilation. The anxiety about its accuracy was compounded by initial weaknesses in the Center's processing and editing of the data. However, much of these earlier problems have been alleviated as discussed later as a result of improvements at the institutions and Center.

Timeliness remains a problem. Data collection from the institutions generally begins in the fall. Because of their own scheduling priorities and the necessity (generally) of reporting through a state agency, institutions are generally tardy (from the Center and User perspective) in reporting on enrollments, degrees conferred, faculty salaries, and expenditures.

There is a three to four month cycle in the collection and processing of data from the institutions through state agencies to the Center, which must then process, edit, and chase non-respondents. As a result, data in machine processed form is generally not available until six, nine, or as much as 12 months from the time when the data was initially collected.

Table 1

HISTORY OF MAJOR POSTSECONDARY EDUCATION SURVEYS
DISTRIBUTED BY THE NATIONAL CENTER FOR EDUCATION STATISTICS (NCES)

Actual 1966-67 through 1978-79 and Scheduled 1979-80 through 1983-84

Survey Name	Form Number	Actual													Scheduled				
		I 1966-67	II 1967-68	III 1968-69	IV 1969-70	V 1970-71	VI 1971-72	VII 1972-73	VIII 1973-74	IX 1974-75	X 1975-76	XI 1976-77	XII 1977-78	XIII 1978-79	XIV 1979-80	XV 1980-81	XVI 1981-82	XVII 1982-83	XVIII 1983-84
NCES Surveys of Institutions--Higher Education General Information Survey (HEGIS)																			
Institutional Characteristics	2300.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Degrees Conferred	2300.2.1	X	X	X	X	X	X	X	X	X	X	X*	X*	X	X*	X	X*	X	X*
Fall Enrollment/Compliance	2300.2.3	X	X	X	X	X	X	X	X	X	X	X*	X	X*	X	X*	X	X*	X
Residence/Migration	2300.2.8			X				X			X				X		X		X
Enrollment by Field	2300.2.9	X	X	X	X	X	X	X	X	X	X	X	Discontinued						
Employees:																			
Total Employees (including Faculty)	2300.3						X	X				X							
FT Instructional Faculty	2300.3	X	X	X	X	X				X	X		X**	X**	X**	X**	X**	X**	X**
Financial Statistics	2300.4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Libraries	2300.5	X	X	X	X		X		X		X	X	X		X		X		X
Enrollment Projections	2300.6	X	X	X	Discontinued														
Facilities	2300.7	X		X	X	X	X			X				Study†		X			
Adult/Continuing Education	2300.8			Sample			Sample					Sample		Sample		Sample		Sample	

Source: NCES

Note: This history summarizes the years that the forms with the number and name indicated were distributed. It does not necessarily mean that the forms were consistent in structure or definition.

*Racial information required. (Form will stay the same, with racial areas shaded in years racial data not required. Thus racial information can be filled in and collected at the state level if desired.) Racial data are being collected for the Office of Civil Rights (OCR) which had collected the data previously on separate forms.

**NCES agreed to collect information on salaries for continuing faculty that had previously been collected by the American Association of University Professors (AAUP). NCES also agreed to publish faculty-salary information annually.

†NCES will be modifying the Inventory of College and University Facilities to collect information for the Office of Civil Rights (OCR) regarding accessibility to higher-education facilities for mobility-impaired students. A feasibility study of 700 institutions was conducted in 1978-79, and all institutions will be surveyed in 1980-81.

In published form, even more delay is encountered. For example, directories of institutional characteristics (which has a high priority in the publishing schedule) generally appear as much as a year after the data is collected. Published tabulations of enrollments and final statistics may run even later; surveys on libraries have not been published for two or more years after the collection effort.

To a degree, the problem with the scheduling of published tabulations has been alleviated with the increasing sophistication of certain users in using the data in machine processed form and the publication of interim reports either by the Center for various educational associations. For example, the American Association of University Professors releases reports on faculty salaries (obtained by processing HEGIS computer data) long before the Center can publish its own reports.

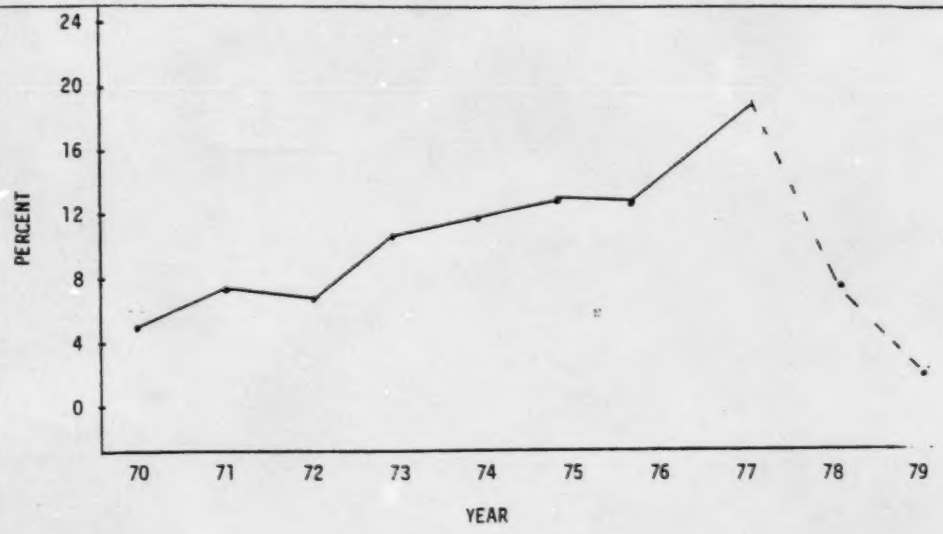
Uses. Questions about the accuracy of the data and problems with timeliness have had a strong influence on how the data from HEGIS are used and how such uses have been perceived. Institutions and, in particular, those charged with the collection and reporting of data to the HEGIS system have often questioned the value of the data at least to them or to their institutions. More than a few at the institutional level have viewed the data as a potential threat, fearing that the data would be used to make invidious comparisons of their institutions with others in terms of costs per student, allocation of resources to various programs, and general assessment of institutional viability. They have feared such comparisons for two reasons: In some cases, institutions may not classify and count certain items the same way despite the strictness of the HEGIS definitions governing reporting because of differences in accounting practices.

Two, one of the most common uses of the data is for comparing costs. Such comparisons are only valid between institutions of like mission, quality, and problems. They may be extremely misleading otherwise.

On the other hand, the data collected by the Center has been used extensively in aggregate form from the very beginning in reporting the condition of higher education. Seymour Harris used the data extensively in his Statistical Portrait of Higher Education, published in 1972. As a comment on timeliness of collection/writing and publication in the early seventies, the latest statistics in this work were for conditions in 1970. The American Association of University Professors annually uses the data to report on the condition of faculty. In general, the data are used by approximately 30. A survey of higher education publications dealing with some aspect of higher education, indicated that the data are used by approximately 15 to 20 percent of such publications. (See Figures 1 through 11.) The fluctuations appear to be a function of NECS releases and level of concern about conditions in higher education.

The remainder of this report, summarizes how the evaluation of HEGIS was made and more fully describes what was concluded and recommended as a result of this evaluation.

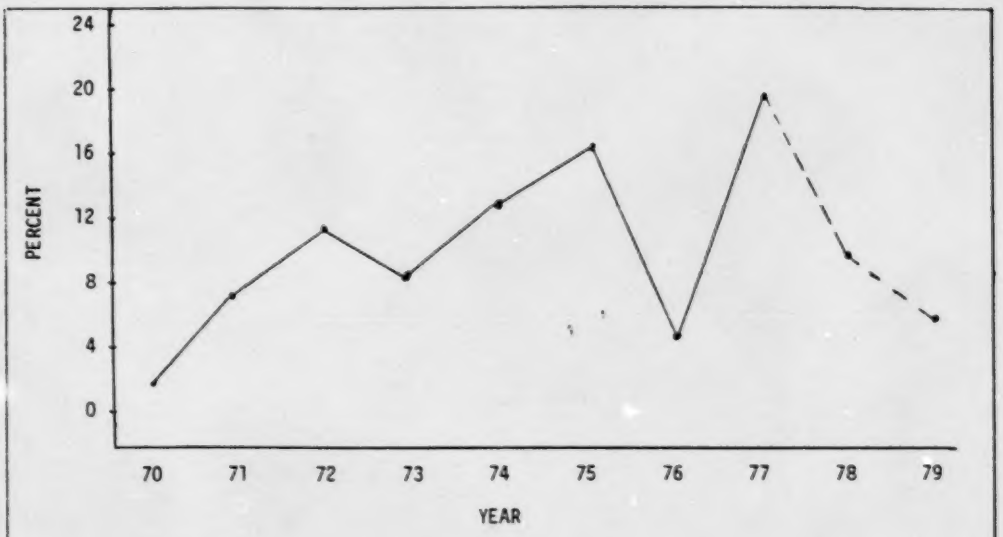
FIGURE 1 Percentage of Publications Using HEGIS Data to Report Institutional Characteristics



YEAR	PERCENTAGE
1970	5.1
1971	7.7
1972	6.9
1973	11.2
1974	11.7
1975	12.8
1976	12.8
1977	19.4
1978	7.2
1979	2.3

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

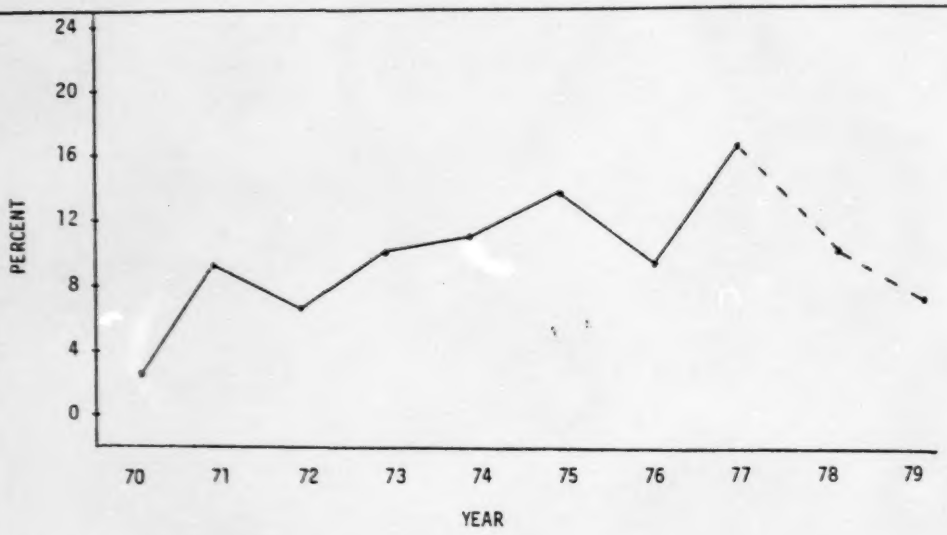
FIGURE 2 Percentage of Publications Using HEGIS Data to Report Degrees Conferred



YEAR	PERCENTAGE
1970	2.2
1971	7.4
1972	11.0
1973	8.1
1974	13.2
1975	16.2
1976	5.9
1977	19.9
1978	9.6
1979	6.6

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

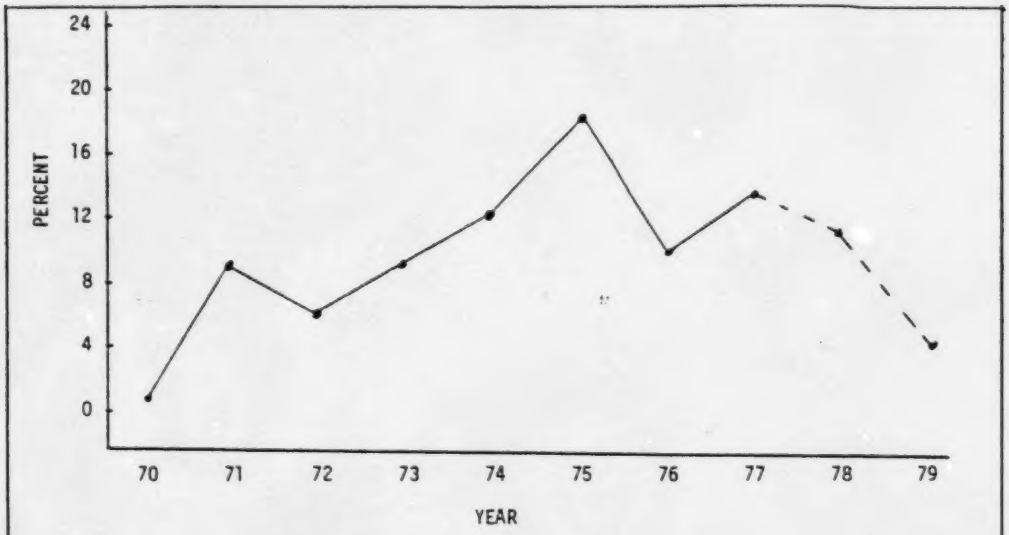
FIGURE 3 Percentage of Publications Using HEGIS Data to Report Fall Enrollment



YEAR	PERCENTAGE
1970	2.9
1971	9.1
1972	7.2
1973	10.1
1974	11.1
1975	14.9
1976	9.1
1977	17.8
1978	10.1
1979	7.7

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

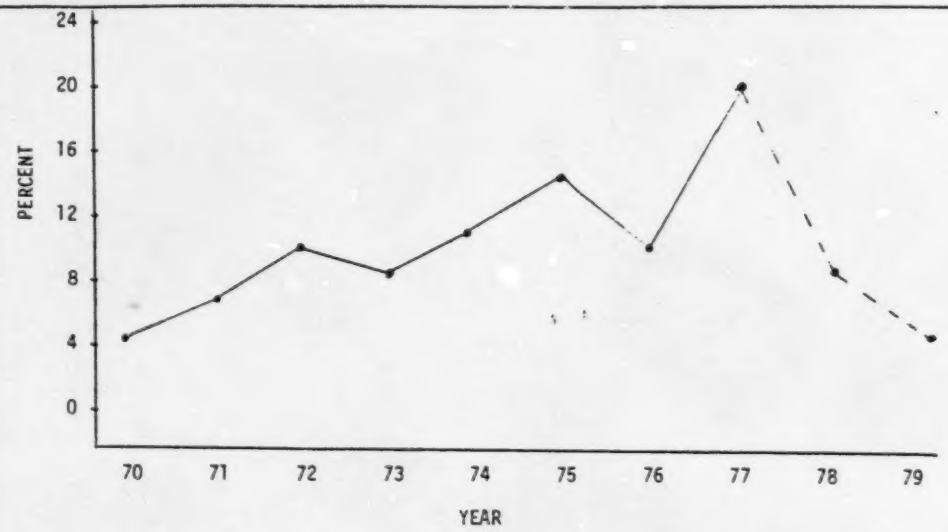
FIGURE 4 Percentage of Publications Using HEGIS Data to Report Residence and Migration



YEAR	PERCENTAGE
1970	1.8
1971	9.1
1972	7.3
1973	9.1
1974	12.7
1975	19.1
1976	10.0
1977	14.5
1978	11.8
1979	4.5

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

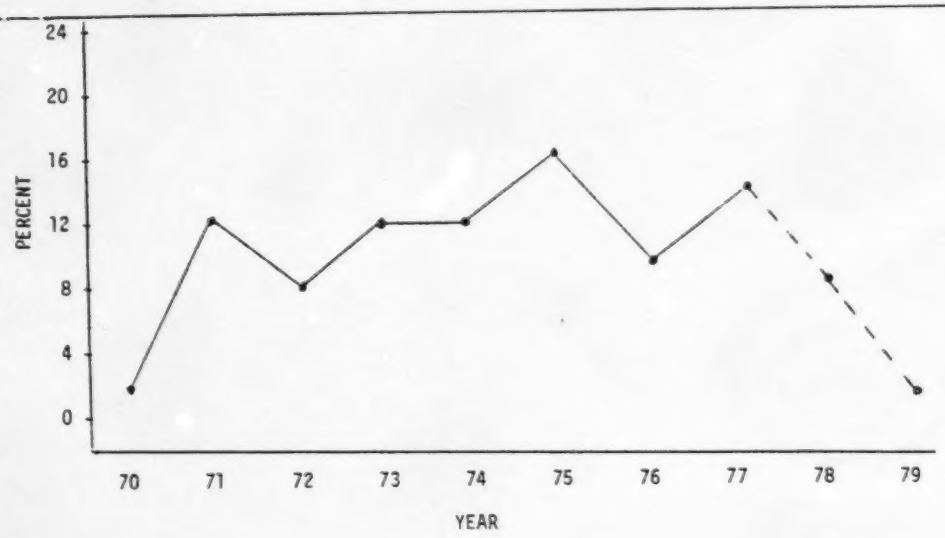
FIGURE 5 Percentage of Publications Using HEGIS Data to Report Faculty Employee Information



YEAR	PERCENTAGE
1970	4.1
1971	7.1
1972	10.2
1973	8.6
1974	11.2
1975	15.2
1976	10.2
1977	20.3
1978	8.6
1979	4.6

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

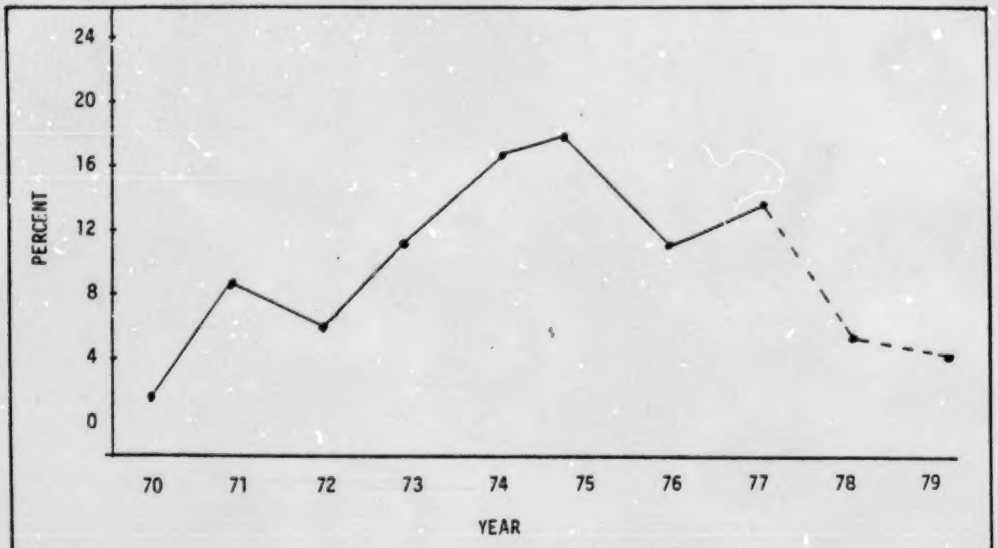
FIGURE 6 Percentage of Publications Using HEGIS Data to Report Staff Employee Information



YEAR	PERCENTAGE
1970	2.1
1971	12.5
1972	8.3
1973	12.5
1974	12.5
1975	16.7
1976	10.4
1977	14.6
1978	8.6
1979	2.1

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

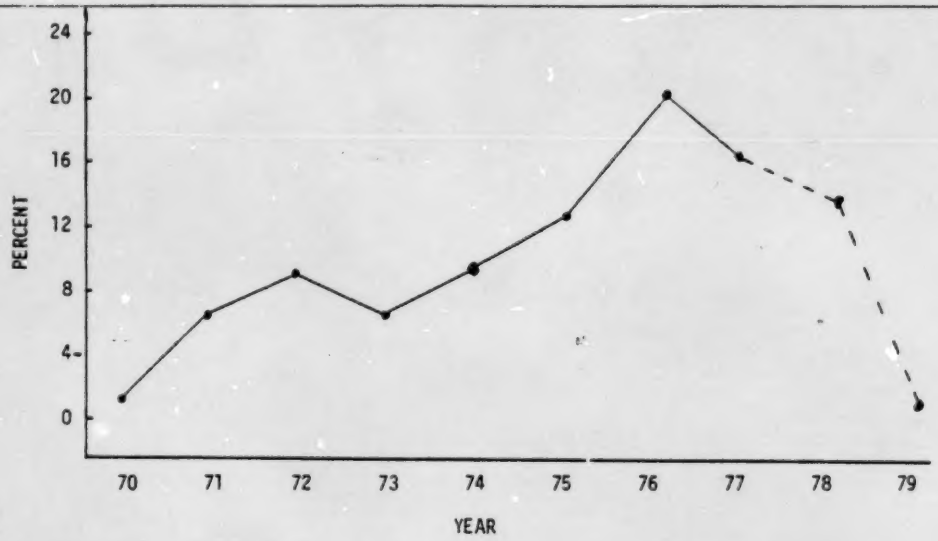
FIGURE 7 Percentage of Publications Using HEGIS Data to Report Finance Information



YEAR	PERCENTAGE
1970	2.8
1971	8.7
1972	6.9
1973	11.9
1974	16.5
1975	17.9
1976	11.9
1977	13.3
1978	5.5
1979	4.6

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

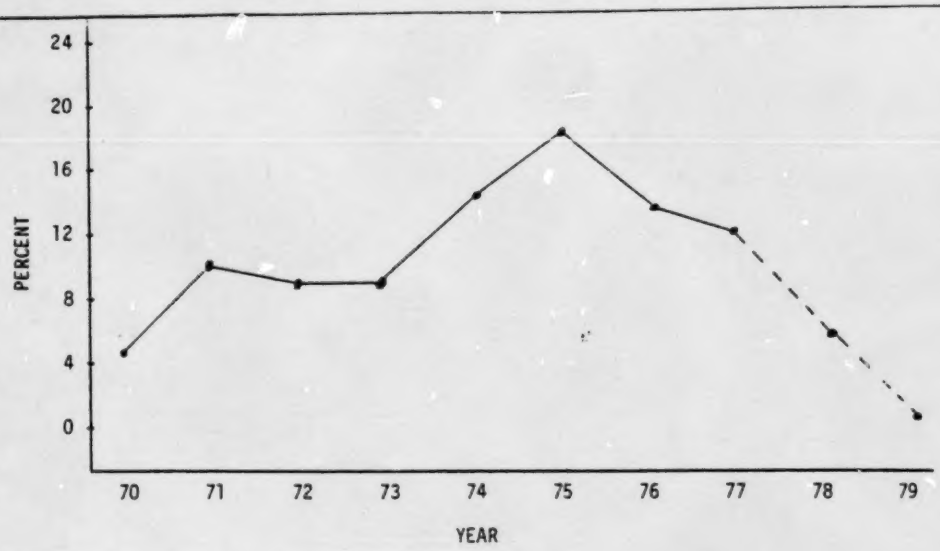
FIGURE 8 Percentage of Publications Using HEGIS Data to Report on Libraries



YEAR	PERCENTAGE
1970	1.8
1971	7.3
1972	9.1
1973	7.3
1974	9.1
1975	12.7
1976	20.0
1977	16.4
1978	14.5
1979	1.8

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

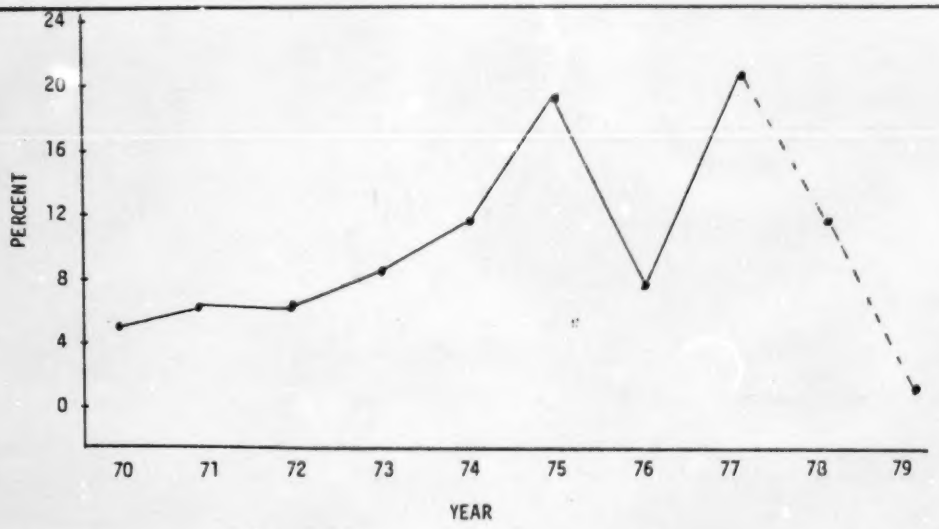
FIGURE 9 Percentage of Publications Using HEGIS Data to Report on Facilities



YEAR	PERCENTAGE
1970	4.5
1971	10.2
1972	9.1
1973	9.1
1974	14.8
1975	18.2
1976	13.6
1977	12.5
1978	6.8
1979	1.1

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

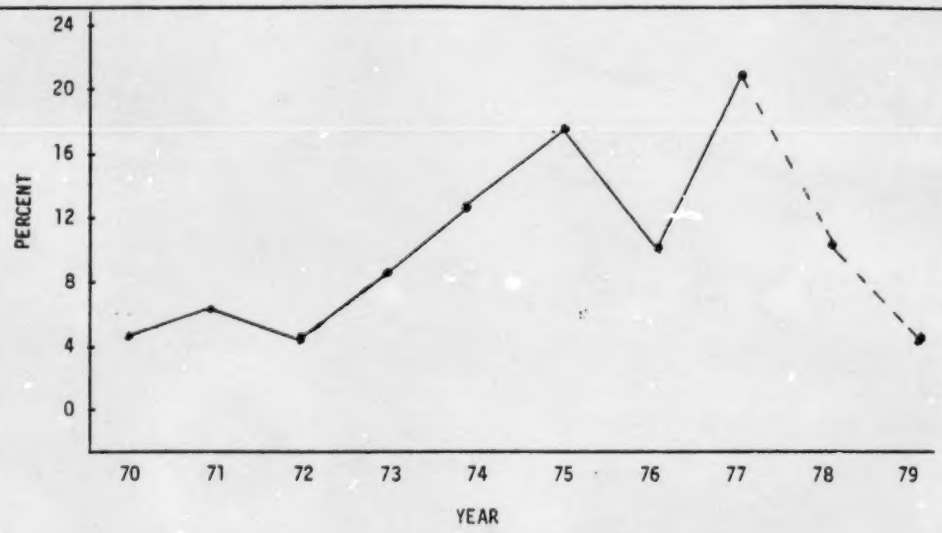
FIGURE 10 Percentage of Publications Using HEGIS Data to Report on Adult/ Continuing Education



YEAR	PERCENTAGE
1970	5.0
1971	6.7
1972	6.7
1973	8.4
1974	11.8
1975	19.3
1976	7.6
1977	20.2
1978	11.8
1979	2.5

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

FIGURE 11 Percentage of Publications Using HEGIS Data to Report on Vocational/ Technical Education



YEAR	PERCENTAGE
1970	4.8
1971	6.7
1972	4.8
1973	8.6
1974	12.4
1975	17.1
1976	9.5
1977	21.6
1978	9.5
1979	4.8

NOTE: The steep declines (indicated by a dash line) subsequent to approximately 1977 are probably due to the following factors: (1) Delays in indexing publications, (2) tardiness in publishing hard copies, thereby inhibiting general use, and (3) age of facilities and library surveys. The conventional review of the literature indicates growing use of such data as finance, enrollment, degrees awarded, and faculty salary since 1977 in terms of sophisticated analysis of conditions of health of various sectors and impact of affirmative action. The use of the data for the latter purpose is just beginning.

METHODOLOGY

Several different research methodologies were employed to determine who uses HEGIS data for what purposes. They include: (1) two distinctly different types of literature review; (2) more than seventy interviews of many different types of users and contributers to HEGIS; and (3) two different sample surveys of two different populations of users to which the project team had access.

Literature Review

First, a review of the literature of higher education and publications concerned with some aspect of the impact of higher education on American society was conducted. In this review, two quite different approaches were employed: (1) a conventional review was conducted to determine trends in uses of the data; and (2) a statistical sample of the appropriate literature was drawn to determine the level of use.

Interviews

The review of the literature provided a written and statistical report on the uses of HEGIS in publications. In addition, it enabled the Project team (1) to identity some of the major users of data or potential major users--key scholars, research organizations, education associations, government agencies, and foundations; and (2) to develop types of questions to be used in interviews. Thus the literature provided a list of users and questions. To this list were added names suggested by the members of the Technical Advisory Panel.

Each interview required from one to two hours. While the interviewers used an interview guide, the interviews were only marginally structured. The interviewer attempted to learn not only how the interviewee had used HEGIS data but also what impressions or opinions he had about its quality and its use in the higher education enterprise. Most of the interviewees were quite articulate with strong but thoughtful opinions about HEGIS data and its applications.

Surveys

The reviews of the literature, suggestions of the Technical Advisory Panel, preliminary interviews, suggestions of NCES staff, and log of purchasers of HEGIS computer tapes and EDSTAT services provided the basis for identifying two different populations to be sampled. A statistical sample of states and institutions within those states was taken, and a second sample was drawn from the log of purchasers of HEGIS data. These two samples were used by an independent researcher to augment her own sample of users of higher education information. She supplied the project team with the results of her study.

CONCLUSIONS

Most of the hypotheses developed during the review of literature and initial interviews, and subsequently tested through further interviews, surveys, and with audiences of users, were supported. The following includes a statement of these hypotheses and the degree to which the findings supported them.

1. HEGIS data have provided a foundation or base for the majority of reports and books that have affected public policy on higher education. Almost everyone that was interviewed agreed with this hypothesis while admitting to the principal investigator that it is difficult to show a direct cause and effect relationship. As noted more extensively in the body of the report, many factors and interests contribute to the development of public policy, not least of which is the lobbying of representatives of higher education. During the process of setting policy and making law, lobbyists and analysts both at the executive and legislative levels have to consider the interests of many constituencies and conflicting priorities. However, it appears from a review of higher education as well as from other literature that ideas behind much policy and law generally precede the full development of policy and its conversion into law by several years. In higher education, for example, the Carnegie Commission for the Study of Higher Education has produced extensive studies on higher education, many of which utilized statistics from the Higher Education General Information Survey system and other sources, such as the Census, to describe the condition of higher education and to provide a foundation for policy recommendations. It seemed to this author and to many interviewees that a considerable amount of higher education law and policies in the seventies, appeared to be derivatives of much of what was recommended by such foundations as Carnegie and the research sponsored by various federal and state agencies. Other evidence that HEGIS data provide a base for law is found in the extensive quotation of HEGIS data during Congressional Hearings on Higher Education (see the review of literature for examples) and reports by interviewees. Most educational associations develop voluminous reports on the condition or projected condition of higher education for their own constituencies, as well as appropriate staff of Congressional committees and executive agencies. In addition, the staff of associations and of Congress work closely together by telephone and memoranda with association staff supplying data or analyses. The data come from the associations' own research, the Bureaus of Census and Labor Statistics, and from HEGIS. (For an example of how associations work with Congress, see Roark, Oct. 6, 1980, p. 3.)

2. Enrollment and financial data are used much more extensively than other survey data for analyzing the Condition of Higher Education, policy analysis, and for making decisions at state and local levels. This is probably true. (True is used here and elsewhere in the report in a relative sense.) However, Degrees and Other Awards Conferred data are used extensively in conjunction with enrollment data for manpower planning and evaluating affirmative action programs and persistence of students. Faculty and employee salary data is reported extensively as is tuition and fees because of the impact on personal and institutional decisions. These data are used to some degree in policy development.

3. Accuracy has improved. Generally the accuracy of all surveys is deemed acceptable. The lone exception to this is in aspects of the financial survey. The financial survey file is probably used more than other files in making complex analyses of the condition of higher education. Moreover, there are many difficulties in reporting and interpreting financial data because of differences among institutions in government and accounting practices. Thus, reports of dissatisfaction with the relative accuracy of the HEGIS file were not unexpected. The major problems with the financial file are summarized in Chapter II. The findings were drawn from Hyatt and Dickmeyer, An Analysis of the Utility of HEGIS Financial Data, May 22-23, 1980. It seems that many of the problems with the file would probably be corrected by more extensive documentation about the accounting practices and governance of certain institutions.

What was unexpected was the relatively high esteem that surveyees and interviewees had for the accuracy of most of the files. A recent study by NCES confirms the opinion of surveyees and interviewees about the relative accuracy of enrollment and degree data. The NCES study (Westat, 1979) reported that there was less than one percent difference between survey and audit data on enrollment and degree data. However, certain caveats are in order about the accuracy of the files. Some researchers are concerned about the levels of aggregation in the files on Enrollment and Degrees Awarded. Another respected researcher believes that the financial file is more accurate than perceived, relative to the other files, and that the concern about the file is a function of its extensive study and use, as she believes expectations concerning accuracy increase with the use of data. It is also worth noting that one interviewee familiar with how library data have been collected or estimated in the past questioned the accuracy of this file. Library and facilities data have not been reported nor collected for some time and, therefore, not used extensively, at least for complex analysis, in the last few years.

4. Timeliness of HEGIS data is seen as a major problem. This was found to be a major problem with HEGIS. The delay of nearly a year or more, justified or not, between collection and distribution of data in machine processable form and hard copy publications is seriously affecting the use of HEGIS. Though there has been recent improvement in releasing tapes of certain files faster, there is still considerable dissatisfaction with the timing of releases. This dissatisfaction is reflected in findings from surveys and in the comments of researchers who work both for educational associations and institutions, charged with reporting to their constituencies and/or supplying data for making administrative and budget decisions. Students of higher education also voice the same complaint. The lack of timely data, as well as difficulties in accessing data in machine processable form (if the data aren't used regularly), probably leads institutions and associations to do more collecting of data through their own surveys (formally or informally) that would be unnecessary if HEGIS data were released more quickly.

However, the expectations of some institutional researchers for delivery of data to support budget proposals, etc. can probably not be met. The primary purpose of HEGIS was and is to report on the condition of higher education at the national level, though such reporting necessarily requires analyses of various sectors of the enterprise. But, the data are also used for secondary purposes (for example, making comparisons among institutions by institutions and state agencies). These uses have occurred because the system provides for consistency in reporting on such matters as finances, degrees and enrollment for a universe of institutions. Generally, comparative data are wanted by state agencies and institutions for budget analyses. Since the budget cycle is almost continuous at the institutional level and budget development for the next year generally begins before actual data on the current year are collected by HEGIS, institutions find that they are required to use projections and revise them as actual data is collected. These revisions quite often are occurring as their reports to HEGIS go forward to intervening agencies, such as state boards, for edits and eventual forwarding to NCES for further edits. Thus, by the time NCES has the data for edit, institutions may have completed their budgeting process for the next year. The cycle and the process therefore appear to preclude NCES' ever delivering reports in time to support budget requests by institutions. Thus, what is going on will probably continue, and, in a sense, provides a use of HEGIS in a very informal way--the trading back and forth of data among institutions that they have collected for their own management or for HEGIS long before such data do, or could possibly, appear in HEGIS reports.

This is not to excuse HEGIS from the requirement to report results of its surveys earlier. Currently, certain HEGIS data are reported in hard copy form as much as two years after the data were collected. Tapes and publications tend to be released as much as a year or longer after the data were collected. This is unacceptable. There was general consensus among interviewees that the data should be published both in machine processable and hard copy from six months and a year (even if this meant leaving out late reporting institutions, thereby sacrificing completeness and accuracy) after collection.

5. The uses of HEGIS data have increased significantly in recent years, particularly in the sophistication with which they are used.

6. HEGIS data have not been used as extensively as they might be in reporting on the condition of women and minorities in higher education because overhead or start-up costs in using HEGIS data for analysis is relatively high. Experienced users tend to disagree that start-up costs are high; but then they have already paid those costs. There has been a spurt of studies on ethnic groups and women in higher education in the last year, quite a bit of it being published and disseminated since the review of the literature was published. Thus the conclusion may not be tenable in the future.

7. HEGIS is a system that would have to be invented if it were not already in place because of the increasing need for data in policy making and planning. Everyone agreed with this notion.

8. More data are wanted on student characteristics and financial aid. Without question more information is wanted on the latter. There appears to be more disapproval than approval for HEGIS' collecting data on student characteristics, institutional quality and outputs. However, there is more and more demand for such data from policy makers and consumers. Data are being gathered and data bases are in place or being developed. Some interviewees suggested that NCES should act as a broker in gathering data from other Department of Education program offices, funding the collection and maintenance of data bases, and disseminating data.

9. The collection of HEGIS data has had an impact on the discipline and sophistication of data collection systems at institution and state levels. This seems to be a reasonable conclusion. It was generally agreed that this discipline has facilitated the exchange of information among institutions.

10. The collection of HEGIS data does not impose a heavy burden on institutions since most of the data would be collected by institutions and/or states for management purposes anyway. This conclusion seems reasonable although opponents of government regulation and data collection may argue with it. The interviewees did not see a heavy burden for ongoing systems. There is a distinct burden cost when changes are made in taxonomies, questionnaires (both of which can cause reprogramming) and/or changes in schedules.

11. Institutions are concerned about the uses of HEGIS for comparison purposes. This conclusion certainly holds for comparison of unit costs, resource allocation, and funding. Generally institutions do not believe the data can be used for institution-to-institution comparisons because of timeliness, or lack thereof; lack of appropriate detail; differences in organization and accounting practices; and inappropriate comparisons of unlike institutions.

12. There was general agreement that data are required from all of higher education because of differences among institutions and the uses to which the data are put. Moreover, most compilers at the institutions felt that the burden of collection would be increased rather than lessened if a sample of institutions was taken because of the increased problems in planning for and managing the collection.

Other conclusions indicated by the findings are the following:

1. HEGIS data can be used for making comparisons among sectors of higher education. In fact, many would argue that it is accurate enough, when handled appropriately, for making state-to-state and inter-institutional comparisons.

2. HEGIS is not being used as fully as it might be for policy analysis, planning and evaluation by either business or university scholars. As noted earlier, there is only a small coterie of scholars and students in universities that is using HEGIS for the above purposes. While there are strong indications that data are being used somewhat by businesses for planning recruitment and evaluating or negotiating affirmative action programs, these uses seem fairly unsophisticated. There is little information in the general literature on higher education about the contents of HEGIS and how to use it.

RECOMMENDATIONS

Several recommendations follow naturally from the above conclusions and are divided into two sections. The first group of recommendations, not necessarily in order of priority, are those which should be addressed immediately by the National Center for Education Statistics. The second group, again not in order of importance, are those which NCES should investigate after the first group. The recommendations are organized in terms of objectives and each objective includes recommendations or suggestions for achieving the objective.

First Priority Recommendations

Improving timeliness of dissemination. As noted in the conclusions and indicated in findings from the literature as well as from surveys and interviews, the major complaint with HEGIS is the timeliness and form in which the data are reported after collection. For example, a survey of the literature indicated that frequency of use generally parallels the collection and reporting of data. Moreover, and somewhat contrary to earlier expectations, the publication and distribution of the data in hard copy as well as on computer tapes is necessary since many researchers and governmental staff need to refer to published material for quick information. At the same time, machine processable data are required for complex analyses and full reporting on the condition of higher education by sectors.

Therefore, it is recommended that NCES do what is necessary to obtain the timely support of other government agencies, in particular the Government Printing Office, to expedite the publication of reports in hard copy while improving the timeliness of access of machine processable data by tapes or EDSTAT terminals by speeding up editing, data processing, and reproduction cycles. It is recognized that improving timeliness to meet a target release of six months to no later than a year after data collection may require publication of data prior to the receipt of reports from certain institutions or states. Their absence and the reasons for such absences should be noted in the reports. At the same time, it

it probably would be useful to continue to input or estimate data for the missing institutions, so noting.

Insuring Completeness and Continuity of the Data Base. While a major priority must be given to early reporting of HEGIS data, even if this means publishing prior to receipt of reports from all institutions, provision should be made for including data from the tardy institutions as they are received, both in hard copy publications as well as the machine processable data files. Thus provision should be made to issue addenda in a timely fashion and revise the master data files. These addenda should be published and the files should be revised in a timely and probably incremental manner.

Dissemination of Data. NCES should give increased attention to improving the dissemination of HEGIS data. As noted in the review of the literature, there is little information in the general literature of higher education about "how to use" and the availability of HEGIS data. Users of the data generally learn about HEGIS' availability from NCES publications or from prior users. Several methods of improving dissemination should be considered by NCES:

1. Presidents of institutions and those in the institutions who are charged with the collection and compiling of HEGIS surveys for their institutions should be provided special reports that show how an institution compares with its peers or its region.

2. Not only presidents of institutions, but those who actually complete the surveys, should receive complimentary copies of the HEGIS reports or, at the minimum, abstracts of such reports.

3. It would be helpful if known students of higher education received either abstracts or copies of HEGIS reports.

4. The feasibility of NCES to license or otherwise support certain private or non-profit agencies in distributing HEGIS data files and/or providing special reports from HEGIS data files should be investigated. Certain contractors and non-profit institutions are currently acting as retailers of HEGIS data by performing special edits and/or reports for one or more institutions. However, the availability of these services does not appear to be widely known. NCES is now supporting several efforts, sometimes in conjunction with other agencies, such as the National Science Foundation, to upgrade the quality of HEGIS files, particularly in historical files on finance and enrollment. These efforts should be catalogued and the availability of these files should be widely disseminated so other users could obtain access to the upgraded files, either through NCES or the agencies at a reasonable cost.

5. The current practice of NCES in releasing the results of HEGIS surveys in bulletins and press releases should be extended.

Increasing Contract Support to Encourage Small Users of the Data. The findings suggest that the major impediments to the uses of HEGIS data are lack of timely release, lack of knowledge about the availability of the data except among a small coterie of users, and "start-up" costs for new users of HEGIS computer tape files. Several recommendations have been made above for improving the timeliness of reports and the dissemination of reports.

However, there is still the problem of encouraging the use of the data for research and reporting on the condition of higher education. The quality of the data in terms of timely reports by institutions, accuracy, and completeness (as well as complaints about its current quality) can be expected to increase with use of the data. Thus the richness, accuracy and completeness of the resource for analyzing the condition of higher education to support useful and insightful policy and law would grow through use. For example, the value of the data has already been enhanced by NCES and foundation-supported studies that have highlighted the plight of certain sectors of higher education in terms of enrollment projections and financial resources. Other researchers have been encouraged to use the data to describe the status of disadvantaged or new clientele in higher education; for example, blacks, hispanics, and women. However, such contracts and grants generally have not provided support to a large body of researchers.

Therefore, it is recommended that more support be provided to students of higher education for using HEGIS data to examine conditions generally outside the primary interest of education associations. One model worth examining is the small grants program of the National Science Foundation, which supports research using NSF data files to study higher education programs in science.

At the same time, NCES should attempt to obtain additional staff support for more in-house analysis of HEGIS data and using such data in conjunction with other files. It should continue to support such effects as research to improve the utility of finance data.

Collecting Financial Aid Data. Reports of previous studies for improving HEGIS data as well as the findings of this study indicate that NCES should give high priority to collecting and/or disseminating more data for evaluating the impact of financial aid programs and for developing policy in this area.

There are complex problems in defining what data are necessary and how data should be collected regarding the impact of financial aid

programs on the resources of institutions, and equality of opportunity and choice for students. Much of the data may already be available in other offices of the Department of Education and in the Office of Civil Rights.

Prior to implementing a new collection effort, NCES should determine what data are available in these offices and what is necessary to include in HEGIS where it could be easily accessed for analyses. However, it is likely that all of the necessary data are not yet being collected, by either government or private agencies. It may be necessary to collect data from students who do not receive financial aid as well as from those who do. In such a case, it probably would be useful to take statistical samples of the student body. This will represent a new practice for HEGIS and the institutions who compile HEGIS data since they now compile data through the institution from the universe of such populations as students, faculty, dollars, and space.

Continuation of Universe and Annual Surveys. One of the problems of this study was to determine whether universe data should be collected and how often surveys should be made. All but three (facilities, libraries, and total employees) are made yearly. Both users and compilers of data for the surveys agreed that universe data are required, because of the diversity of institutions, and that regular surveys are necessary. Management of the data collection process is facilitated (and thus the burden is eased) when compilers can plan for the data collection on a regular basis. It appears that data that are collected annually are required on a yearly basis and that the collection and publication of library and facility data should be done with more regularity and perhaps more often.

Therefore, it is recommended that 1) universe data continue to be collected; 2) that the data now collected annually continue to be collected yearly; and 3) that the collection and dissemination of facility and library data be scheduled regularly.

Collection of Facility Data. It has been several years since facility data have been collected by HEGIS from the institutions. During this period, there have been many predictions that higher education has excess capacity in both facilities and faculty for projected enrollments. Given these predictions, it may be that investment in facilities has declined while facilities have aged, equipment has been made obsolete by newer technology, and needs have changed because of enrollment shifts by region, school, discipline, and other factors. But whether the above is true is not known since there has not been a recent survey of facilities.

Therefore, it is recommended that NCES conduct a facility survey in 1981 as planned. At the same time, NCES should begin a study to determine whether and how the current survey instrument should be revised for

follow-on surveys to determine more fully the effects of deferred maintenance, technological obsolescence, and shifting needs on facilities. Unfortunately, most institutions of higher education, unlike private businesses, do not provide or account for depreciation and technological obsolescence. Thus, the design of an appropriate survey instrument will require considerable thought if the instrument is to collect data that will adequately describe the condition of higher education facilities in relationship to needs.

Second Priority Recommendation

Increasing the scope of the surveys. The literature, interviews, and conference reports on the utility of HEGIS data, suggest that HEGIS should collect additional information for reporting on the condition of higher education. It has already been recommended that NCES provide leadership in compiling and disseminating data collected by the Department of Education program office and the Office of Civil Rights that is already being collected, particularly on the source and distribution of financial aid fund. Other additions or extensions of the surveys that should be considered are the following:

1. Faculty Salary Data. In addition, there appears to be a need for more detailed information on faculty salaries, at least at the institutional level. Several institutional planners reported that faculty salary data by discipline are used for making resource allocation and personnel decisions. However, members of the Technical Advisory Panel questioned whether the data were needed for reporting on conditions at the national level. There was also some fear that the collection of such data would be difficult and might further delay the reporting of salary data.

However, institutions do make faculty decisions by discipline and it can be projected that a good analysis of the status of women and minorities in higher education would require faculty salary data by discipline. It is probably that data by discipline is required only at fairly high levels of aggregation--for example, hard sciences, social sciences, and such professional schools as business administration, education, medicine, law, and engineering.

Since there are difference of opinion on how badly the data are needed, and at what levels they should be collected, it is recommended that NCES conduct a special study of the need for these data and the impact that such a collection would have on improving the timely release of data that are now being collected.

2. Employee Data. The data currently being collected on employees in higher education, for other than full-time faculty are relatively limited. For example, current surveys do not provide very much useful information

on part-time faculty, graduate research and teaching assistants, research associates, and post-doctoral candidates involved in teaching and research. There are indications that the former mix of full-time faculty to other types of personnel for teaching and research is shifting. Increased amounts of data on personnel could provide information on whether there are significant shifts in the mix of personnel and higher employment opportunities for manpower planning. Therefore, it is recommended that NCES consider the feasibility of collecting additional data on employees.

3. Output and Quality. The review of the literature and interviews indicated that there is a growing demand for more information about the outputs and quality of higher education, and student characteristics. Certain associations and scholars, regularly or (more often) irregularly, collect data on output, quality, and student characteristics. Perhaps most notable among these reports are Dr. Astin's yearly study of freshmen, entering class CIRP* (Astin, 1977), the NCES National Longitudinal Survey of the 1972 high school graduation class, and various profit and non-profit directories of higher education institutions. The latter often provide some data on student characteristics--in particular, admission requirements in terms of grades and test scores.

Although there are increasing concerns for measuring and reporting the quality and outputs of higher education and/or for particular institutions, there is wide divergence on what outputs and quality are and how they can be measured. Despite these problems of measurement there is increasing anxiety about perceived declines in quality, the potential effects of competition for students on quality, and the lack of consumer information to aid students and their parents in selecting institutions. There also seems to be growing dissatisfaction with using student credit hours or other enrollment measures as the major measure for allocating resources.

Therefore, it is recommended that NCES support studies to determine whether the demand for the above data would justify the burden on institutions and/or government agencies that collection of such data would impose. Support should also be provided for research and development on measures of quality and output. It is also recommended that NCES should determine what is currently being done and reported by scholars and associations and how it might best support these efforts and act as a broker in disseminating the data widely for research and reporting on the condition of higher education.

Recommendations of the Technical Advisory Panel

In its review of the preliminary draft of the final report, the Technical Advisory Panel noted that the report provided documentation

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*Cooperative Institutional Research Program.

that supported their perceptions that HEGIS was a necessary and increasingly more used data base for reporting and analyzing the condition of higher education. It strongly supported recommendations for improving timely reporting and the means that were suggested for encouraging the uses of HEGIS data.

It recommended that the report be widely disseminated and that NCES and the higher education community support efforts to get the recommendations implemented at the earliest possible date.

It was also recommended that NCES commission a study to determine (1) the relative investment in collecting statistics on education, (2) the efficiency or effectiveness of current collection and dissemination efforts, and (3) what might be done to improve effectiveness.